

AMENDMENTS TO THE DRAWINGS

Figure 5 has been amended to change reference numeral 14 to reference number 24.

Attachment: Replacement Sheet(s): one (Figures 4 and 5)

REMARKS

Claims 1 to 19 are all the claims pending in the application, prior to the present Amendment.

Applicants have added a new dependent claim 20. Support for claim 20 can be found at page 8, lines 1 to 3 of the specification.

Claims 2 and 6-8 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Examiner sets forth two reasons for this rejection. Applicants discuss each reason below.

The Examiner states that claim 2 is indefinite because it requires that the Ti oxide comprises TiO_2 , but claim 1 from which it depends requires that the Ti oxide is TiO and/or Ti_2O_3 . Thus, according to the Examiner, claim 2 does not further limit claim 1. The Examiner suggests amending claim 2 to state "wherein Ti oxide further comprises TiO_2 ."

In response, applicants have amended claim 1 as set forth above to recite the term "Ti oxides" instead of Ti oxide. Examples of the Ti oxides include TiO_2 , TiO and Ti_2O_3 . See page 6, line 26 of the present specification. Further, applicants have amended claim 1 to incorporate the subject matter of claim 2. In view of the amendment to claim 1, applicants have canceled claim 2. In view of amendments to claim 1 and the cancellation of claim 2, applicants submit that this aspect of the rejection is moot.

The Examiner states that claims 6-8 are indefinite because they lack antecedent basis for the "oxide in the undercoating layer." The Examiner states that claim 1 does not disclose an oxide in the undercoating layer.

In response, applicants have amended claims 6 to 8 as set forth above to provide antecedent basis.

In view of the above, applicants request withdrawal of this rejection.

Claims 1, 3-6 and 18-19 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 7,470,474 to Sakawaki et al.

In addition, claims 7-8 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 7,470,474 to Sakawaki et al.

Applicants submit that Sakawaki et al do not disclose or render obvious the subject matter of the presently claimed invention and, accordingly, request withdrawal of these rejections.

As discussed above, applicants have amended claim 1 to incorporate the subject matter of claim 2. Claim 2 has not been included in each of these rejections. Accordingly, applicants submit the incorporation of claim 2 into claim 1 overcomes these rejections.

The present invention as set forth in claim 1 as amended above is directed to a magnetic recording medium, comprising a substrate, at least one of undercoating layer formed on the substrate, and a magnetic recording layer which is formed on the undercoating layer and includes a magnetic crystal grains and a grain boundary field which encloses the magnetic crystal grain. In the present invention, the grain boundary field includes Ti oxides, and the ratio of the substance amount of the Ti oxides in the magnetic recording layer is 5 mol % or more and 15 mol % or less. The Ti oxides comprise TiO_2 wherein the ratio of the TiO_2 component in the Ti oxides is 90 mol% or less, and the Ti oxides further comprises TiO and/or Ti_2O_3 .

Sakawaki et al do not disclose a specific amount of TiO₂, which enables the unexpected excellent effects of the present invention to be obtained. A specific combination of TiO₂ and TiO and/or Ti₂O₃ is not disclosed in Sakawaki et al.

Accordingly, Sakawaki et al do not disclose or suggest a magnetic recording medium that has the features recited in claim 1 or the effects obtained thereby. Thus, the excellent effects regarding the noise ratio (SNR), which has been achieved due to the features of present invention, are not described in Sakawaki et al. Applicants direct the Examiner's attention to Figs. 6 to 9 of the present specification which illustrate the effects obtained by the present invention.

In view of the above, applicants submit that Sakawaki et al do not disclose or render obvious the subject matter of the presently claimed invention and, accordingly, request withdrawal of this rejection.

Claims 1, 3-4 and 18-19 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 7,192,664 to Wu et al.

Applicants submit that Wu et al do not disclose the subject matter of the presently claimed invention and, accordingly, request withdrawal of this rejection.

As discussed above, applicants have amended claim 1 to incorporate the subject matter of claim 2. Claim 2 has not been included in this rejection. Accordingly, applicants submit the incorporation of claim 2 into claim 1 overcomes this rejection.

Claim 2 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 7,192,664 to Wu et al.

As discussed above, the subject matter of claim 2 has been incorporated into claim 1.

Applicants submit that Wu et al do not disclose or render obvious the subject matter of the presently claimed invention as set forth in claim 1 as amended above and, accordingly, request withdrawal of this rejection.

Wu discloses in column 6, lines 55 to 60, that 6% of TiO₂ is included in a granular magnetic layer, and another Ti oxide such as TiO can be further included in the layer. However, the amount of TiO₂ and the unexpected effects of the present invention are not disclosed in Wu.

Accordingly, Wu et al do not disclose or suggest a magnetic recording medium that has the features recited in amended claim 1. The excellent effects regarding the noise ratio (SNR), which has been achieved due to the features of present invention, are not described in Wu et al. See Figs. 6 to 9 of the present specification which illustrate the effects obtained by the present invention.

In view of the above, applicants submit that Wu et al do not disclose or render obvious the subject matter of the presently claimed invention and, accordingly, request withdrawal of this rejection.

In reviewing the specification and drawings, applicants have noted that the specification states at page 15 that the second embodiment of the invention contains a first undercoating layer 24, which differs from the first undercoat layer of the first embodiment. Figure 5 of the drawings shows the second embodiment of the invention, but it does not show an undercoating layer 24. Instead, it shows an undercoat layer 14, which is the same as in Figure 2 which shows the first embodiment.

Accordingly, applicants have amended Figure 5 to change the reference numeral 14 to reference numeral 24.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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